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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,263	03/04/2002	Jari Ruohonen	460-010860-US(PAR)	6951
2512	7590	02/23/2006	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			TRAN, KHANH C	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/091,263	RUOHONEN, JARI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Khanh Tran	2631	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-16, 20-30, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 11, 17-19 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. The Amendment filed on 11/23/2005 has been entered. Claims 1-33 are pending in this Office action.

### ***Response to Arguments***

2. Applicant's arguments, see pages 13-15 under Applicant's Remarks, filed on 11/23/2005, with respect to the rejection(s) of claim(s) 1-2, 5-6, 8-9, 12-13, 20-22 and 24-28 under 35 U.S.C 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different aspects of Pecan U.S. Patent 6,603,825 B1, Eriksson et al. U.S. Patent 6,502,063 B1, Oliver et al. U.S. Patent 6,012,031 and admitted prior art.

3. The rejection of claims 1-33 under 35 U.S.C 112, 2<sup>nd</sup> paragraph, has been withdrawn after Applicant amended claim 1 to positively recite the various steps, and amended claim 24 to positively recite the various means.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 12-16, 20-22, 24, 26-27 and 32-33 are rejected under 35

U.S.C. 102(e) as being anticipated by Pecen U.S. Patent 6,603,825 B1.

Regarding claim 1, referring to figure 1, in column 3 lines 5-15, Pecen teaches a communication system 100 (FIG. 1) including a local transceiver 102 and a remote transceiver 104 connected by a communication link 106.

In column 3 line 55 via column 4 line 15, see also figure 1, processor 130 of local transceiver 102 determines how much lower the local transceiver 132 transmission power can be reduced before appreciable degradation occurs in the received signal quality measured at receiver 118 by processor 114. This determination is made based upon a signal quality measurement made by the transceiver 104 processor 114, which signal quality measurement can for example be the bit error rate measured by the remote receiver. The bit error rate indicates whether the data received by receiver 118 is being decoded accurately. In light of the foregoing, the data being correctly decoded corresponds to the claimed valid radio blocks.

If it is, then the gain of transceiver 132 can be lowered until the bit error rates falls off. The critical threshold occurs when reductions in the transmit power produce increases in the bit error rate reported by the remote transceiver 104

back to the local transceiver 102. Based upon these criteria, the local transceiver may set its transmission power level for data packets sent on the packet data channel (PDCH).

Regarding claim 12, in column 8, lines 25-50, Pecen teaches adjusting a receiver gain of the receiver that receives information on a TCH, in response to the BCCH carrier signal level, and the BCCH carrier to interference ratio reaching a first predetermined value and said TCH carrier to interference ratio reaching a second determined value.

Regarding claim 13, claim 13 limitation has been discussed in claim 1 rejection.

Regarding claim 14, in column 5 lines 45-65, Pecen teaches that in FIG. 7, the frame allocation to the mobiles (radiotelephones) 104, 404, 405 is illustrated. In GPRS, there are times when the mobile radiotelephones 104, 404, 405 may be required to listen to all down link data blocks to decode the address fields, which is the method by which a mobile determines if a data block was intended for it. The primary purpose of power control is to reduce the amount of average RF energy radiated around the antenna 138 of a base station incorporating local transceiver 102, thereby reducing the amount of co-channel interference to mobiles 104, 404 and 405 sharing the same channel.

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Regarding claim 15, claim 15 is rejected on the same ground as for claim 13 because of similar scope. Furthermore, the remote receivers can track the value of a BCCH carrier broadcast by the local site. The BCCH carrier is continuously transmitted signal having a predetermined fixed level when it is transmitted by the local transceiver 102.

Regarding claim 16, claim 16 is rejected on the same ground as for claim 15 because of similar scope.

Regarding claim 20, Pecen teachings apply to GPRS. Mobile stations receive signal from base station in a packet switched communication network; see figures 1 and 4.

Regarding claim 21, claim 21 limitation has been discussed in claim 1 rejection.

Regarding claim 22, the traffic channel is PDCH of the GPRS network.

Regarding claim 24, claim 24 is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 26, claim 26 limitation has been discussed in claim 1 rejection. Furthermore, in column 1 lines 60-67, Pecen discusses that the method of control specified for transmissions from the base station to the mobile station in the GSM

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GPRS example requires that the BTS must transmit the four bursts which comprise a single data block at the same power level. However, this standard also permits control of the base transceiver station (BTS) on a block-by-block basis based on Channel Quality Reports.

Regarding claim 27, Pecan teachings apply to GPRS network.

Regarding claim 32, claim 32 is rejected on the same ground as for claim 12 because of similar scope.

Regarding claim 33, claim 33 is rejected on the same ground as for claim 13 because of similar scope.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 5-6, 8-10, 25, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecan U.S. Patent 6,603,825 B1 as applied to claim 1 above.

Regarding claim 2, Pecan does not expressly teach the claimed step of correcting the reference level by calculating a running average of the reference level with respect to time as claimed in the application claim.

Figure 4 illustrates a communication system including a local transceiver 102 and remote transceiver 104 and other portable cellular telephones 404-408. In column 5 lines 35-55, Pecen discusses the GPRS data transmission as illustrated in figure 6 in which the time period between packets are separated by intervals that may be milliseconds or hours apart, depending upon the data transfer demands of the mobile application or another mobile's needs. Additionally, the periods for each transmission (labeled "D") are not uniform, although the setup and tear down for each packet will be substantially uniform. In light of the foregoing discussion, in column 6 lines 60-67, because Pecen further discloses that the GSM GPRS specification requires that the radiotelephones 104, 404, 405 take signal measurements repeatedly and communicate this information to the base station, one of ordinary skill in the art would have been motivated to modify Pecen teachings to calculate the running average of the signal quality measurement with respect to time. The modification is necessary due to non-uniformity of the packets.

Regarding claim 5, in column 4 lines 35-65, see also figure 1, Pecen further teaches that the remote receiver 118 can track the value of a BCCH carrier broadcast by the local site. The BCCH carrier is continuously transmitted signal having a predetermined fixed level when it is transmitted by the local transceiver 102.



Pecen does not expressly teach if the valid radio blocks has not been received during a predetermined period of time, correcting the reference level as set forth in the application claim.

Because of the fixed transmission level, the magnitude of the BCCH carrier when it is received at the remote transceiver 104 is indicative of the communication channel signal loss. Hence, if the bit error rate indicates whether the data received by receiver 118 is not being decoded accurately, one of ordinary skill in the art would have been motivated to track the value of a BCCH carrier broadcast by the local site in order to adjust the gain of the mote receiver 118. See also figure 9.

Regarding claim 6, claim 6 is rejected on the same ground as for claim 2 because of similar scope. In this case, the remote receiver 118 tracks the value of a BCCH carrier broadcast by the local site and calculate a running average of the signal strength of the BCCH.

Regarding claim 8, as recited in claim 5, Pecan further teaches that the remote receiver 118 can track the value of a BCCH carrier broadcast by the local site.

Regarding claim 9, in column 4 lines 35-50, Pecan teaches that the remote receiver 118 can track the value of a BCCH carrier broadcast by the local site. The BCCH carrier is continuously transmitted signal having a predetermined fixed level

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when it is transmitted by the local transceiver 102. By setting the gain of the receiver inversely to the magnitude of received carrier signal, the gain of the receiver is increased when the remote transceiver is receiving a weaker signal.

Regarding claim 10, in column 5 lines 10-25, because the communication network in figure 4 operates in time division system, one of ordinary skill in the would have recognized that all transceivers are synchronized to the communication network.

Regarding claim 25, claim 25 is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 28, claim 28 is rejected on the same ground as for claim 26 because of similar scope.

Regarding claim 30, claim 30 is rejected on the same ground as for claim 10 because of similar scope.

6. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecan U.S. Patent 6,603,825 B1 as applied to claim 2 above, and further in view of Oliver et al. U.S. Patent 6,012,031.

Regarding claim 3, Pecan does not teach utilization of a filter with variable length to calculate the running average as claimed in the application claim.

Oliver et al. teaches a filter, which dynamically varies its length responsive to a moving average of variations in an input rate; see column 1 lines 64-67. In column 2, lines 20-25, Oliver et al. further teaches that the filter lengthens at substantially constant input rate variations to reduce input noise.

Because the GPRS data transmission as illustrated in figure 6 (Pecen invention) in which the time period between packets are separated by intervals that may be milliseconds or hours apart and the periods for each transmission (labeled "D") are not uniform, one of ordinary skill in the art at the time the invention was made that Pecen teachings can be modified to utilize the variable-length moving-average filter as taught by Oliver et al..

Regarding claim 7, claim 7 is rejected on the same ground as for claim 3 because of similar scope. In this case, the remote receiver 118 tracks the value of a BCCH carrier broadcast by the local site, and uses the variable-length moving-average filter to calculate a running average of the signal strength of the BCCH.

7. Claims 4 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen U.S. Patent 6,603,825 B1 as applied to claim 2 above, and further in view of Eriksson et al. U.S. Patent 6,502,063 B1.

Regarding claim 4, Pecen does not discuss the step of calculating, by using the running average, a predetermined number of the valid radio blocks as a forgetting factor as claimed in the application claim.

Eriksson et al. discusses in another US Patent (column 1, lines 10-60) that in monitoring and control systems, there is a need to generate estimates of a magnitude of interest from multiple instantaneous measurements. A time variant quantity is to be estimated, it is often desirable to rely, at least in part, on historical measurements to generate a more reliable estimate of the current quantity. Typically, measurements made recent in time are more relevant to the current estimate than earlier measurements. Eriksson et al. further discusses one way to achieve this result is to use historical weights that decrease exponentially with time. Thus, if two measurements are separated by  $n$  time instants (corresponding to a time difference of  $(t-nT)$  seconds, where  $T$  is the time between consecutive time instants and  $t$  is the time of the later measurement), the older of the two measurements are considered  $(1-\beta)^n$  times less important, where  $\beta$  is a parameter called the forgetting factor. The value of the forgetting factor determines how fast the estimator forgets old measurements and must be a number between 0 and 1, where values close to 1 result in an estimator that forgets quickly.

Because, as also discussed in Pecan invention in column 1 lines 50-65, for GPRS, power control is more significantly more difficult to achieve due to variant length of data packets and variations in the time period between transmission of data packets between a base station and a mobile station, therefore, it would have been obvious for one of ordinary skill in the art at the

time the invention was made that Pecen teachings can be modified to implement the method as discussed in Erksson et al. invention.

Regarding claim 29, claim 29 is rejected on the same ground as for claim 4 because of similar scope.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen U.S. Patent 6,603,825 B1 as applied to claim 1 above, and further in view of admitted prior art in the original disclosure.

Regarding claim 23, Pecen does not teach the predetermined way as set forth in the application claim.

Admitted prior art, on page 6 in the original disclosure, discusses in a known manner, two different control modes are used for the power control of the PDCH blocks: Mode A, and Mode B when fixed allocation is used only. In Mode A, the variation in the output power of the BTS is limited, whereas in Mode B, the whole range of variation of the output power of the BTS is in use. Pecen and admitted prior art are in the same field of endeavor. As discussed in Pecen invention, because the primary purpose of power control is to reduce the amount of average RF energy radiated around the antenna 138 of a base station incorporating local transceiver 102, thereby reducing the amount of co-channel interference to mobiles 104, 404 and 405 sharing the same channel (see column 5 lines 50-65, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Pecen teachings can be modified to implement the power control modes as discussed in known method.

***Allowable Subject Matter***

9. Claims 11, 17-19 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

*Khanh Cong Tran*

02/17/2006

Examiner KHANH TRAN